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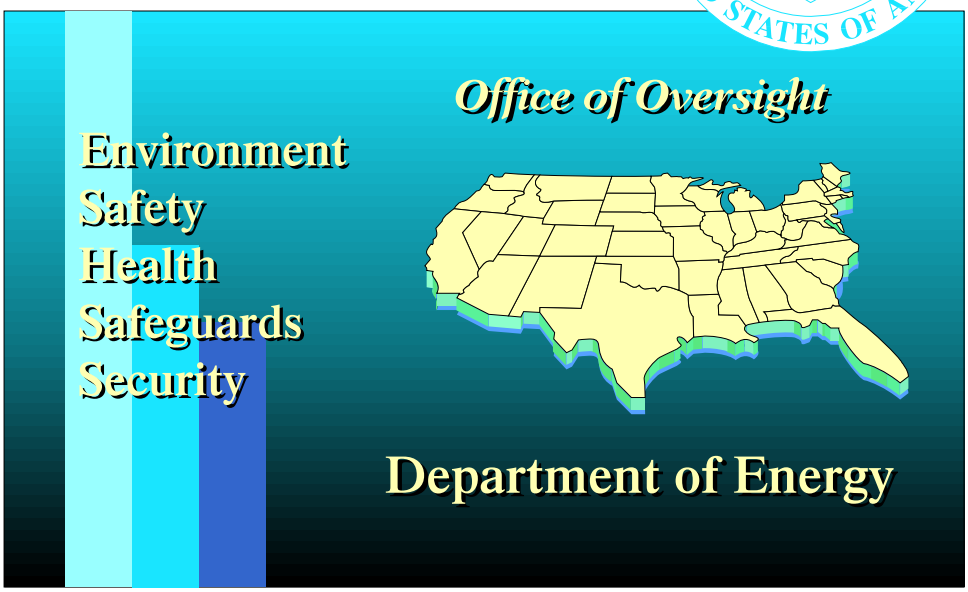
OVERSIGHT

Y-12 Plant

Safeguards and Security Profile Summary Analysis

July 1997



Office of Environment, Safety and Health

1.0 Introduction

The Department of Energy (DOE), Office of Environment, Safety, and Health, conducted a review in July 1997 of the safeguards and security posture at the Department's Y-12 Plant, which is administered by the DOE Oak Ridge Operations Office. This review was part of a recent initiative by the Assistant Secretary for Environment, Safety, and Health to characterize the current status of safeguards and security programs throughout the Department. The Assistant Secretary for Environment, Safety, and Health uses the Office of Oversight to provide the Secretary of Energy with independent assessments of the Department's performance in the areas of environmental protection, safety, health, and security. This document describes significant aspects of the safeguards and security posture at Y-12 observed during this review.

2.0 Background

Location

The Y-12 Plant is part of a larger complex of facilities including the Oak Ridge National Laboratory and the East Tennessee Technology Park (formerly the K-25 Plant). These facilities constitute an 800 acre Federal reservation located in east-central Tennessee, about 20 miles northwest of Knoxville.

Mission

Y-12's current missions include the dismantlement of nuclear weapons; the warehousing of special nuclear material, including storage of designated material under International Atomic Energy Agency safeguards; the maintenance of nuclear weapons production process technology; and environmental restoration and waste management.

Security Assets/Interests

The most important security interests at Y-12 include a significant amount of highly enriched uranium, over a million classified documents, and over 100,000 items of classified weapons components and tooling.

Protection Strategy

The protection strategy at Y-12 follows the DOE-mandated approach of "defense-in-depth." Major security interests are surrounded by a layered system of physical barriers, access controls, and intrusion detection systems, designed to ensure that attempts to gain unauthorized access to these interests are either deterred or are detected in sufficient time to permit an appropriate and effective protective force response. Additional administrative protection elements include the personnel security and the nuclear material control and accountability programs.

3.0 Results of Past Safeguards and Security Reviews

The most recent reviews of safeguards and security programs at Y-12 by the local DOE operations office have generally been positive, as have the results of recent self-assessment activities by the plant's operational contractor. The results of this review indicate that Y-12 has maintained the acceptable level of performance noted in the 1994 Office of Security Evaluations comprehensive inspection.

4.0 Results of This Review

Positive Trends and Initiatives

Y-12 managers characterize the experience, initiative, and flexibility of the safeguards and security staffs at both DOE and the operations contractor as the most positive attribute of the safeguards and security program. A number of management initiatives are under way in the Oak Ridge Operations Office and Y-12 safeguards and security programs. Management representatives emphasize three such initiatives in particular. The first of these is the current effort to evaluate the performance and cost/benefit aspects associated with Y-12's current role as the major provider of security services for Y-12, Oak Ridge National Laboratory, and the East Tennessee Technology Park. A second initiative revolves around Oak Ridge Operations Office and contractor efforts to include safeguards and security performance objectives in the 1998 incentive fee performance plan. Third, a special effort has been

undertaken to accommodate the revised safeguards and security requirements implicit in the restart of the various Y-12 facilities.

In recent years, Y-12 has successfully maintained an acceptable degree of performance effectiveness, although there has been a steady and significant decline in resources. Thus, the program has become more efficient in resource management.

A specific example of effective program management is found in the physical security systems discipline. Although the physical security system components at Y-12 are aging, they continue to provide adequate and reliable protection. A major factor in their ability to do so has been Y-12's continuous effort to upgrade or replace system elements as the need to do so is identified.

Similarly, in the area of nuclear material control and accountability, Y-12 has undertaken the DYMCAS Migration Project to address problems associated with the age and limitations of the DYMCAS accountability system currently in use. The project, scheduled for completion at the end of 1999, will employ new hardware and software applications to overcome current system limitations and provide a needed expansion of capabilities.

Issues Warranting Management Attention

No protection weaknesses warranting immediate management action were noted at Y-12. However, a variety of specific protection issues each warrant increased management emphasis. These issues relate to access control procedures, nuclear material measurements, and procedures to ensure that the current enrollment of personnel in the personnel security assurance program is appropriate in terms of overall security program requirements.

The most significant management issue relates to safeguards and security program planning, specifically the progressively more difficult task of balancing declining resources against steadily increasing operational requirements. Safeguards and security program funding has decreased in recent years and is projected to further decrease in the years to come. At the same time, new requirements in such areas as stockpile maintenance, lifetime extension, and re-engineering each carry the potential to increase demands on the safeguards and security program. The challenge for safeguards and security managers will be to assure the timely identification of resource needs and to achieve the most effective balance between program requirements and available resources.